

THE HEMISCYLLIID SHARKS OF THE PHILIPPINE ARCHI-  
PELAGO, WITH DESCRIPTION OF A NEW GENUS FROM  
THE CHINA SEA.

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The family of Hemiscylliidae is only sparsely represented in the *Albatross* collections made during the Philippine cruise. Two well-known species were obtained, and in addition a new genus (*Cirrhoscyllium*) from moderately deep water in the China Sea. The relations of the new genus to the genera previously described are in part shown in the following key:

KEY TO THE GENERA OF HEMISCYLLIIDÆ.

- a*<sup>1</sup>. Anal fin behind second dorsal; spiracles large.  
    *b*<sup>1</sup>. No labial fold on lower jaw.....*Hemiscyllium*.  
    *b*<sup>2</sup>. A labial fold on lower jaw.....*Chiloscyllium*.  
*a*<sup>2</sup>. Anal fin in advance of second dorsal; spiracles minute.  
    *c*<sup>1</sup>. Nape not conspicuously elevated; no appendages on under side of throat;  
        teeth of lower jaw with indistinct lateral cusps.....*Parascyllium*.  
    *c*<sup>2</sup>. Nape conspicuously elevated; a pair of thread-like appendages on under side  
        of throat; teeth of both jaws with distinct lateral cusps.....*Cirrhoscyllium*.

**CHIOSCYLLIUM PUNCTATUM** Müller and Henle.

The collection contains three specimens referable to this species, heretofore known from the India seas, China seas, and Australia. The smallest example, a female 40 cm. long, obtained in the Siasi market on February 17, 1908, shows in alcohol about 10 distinct dark brown cross bands on head, body, and fins. The largest specimen, 90 cm. long, secured in the Zamboanga market on May 27, 1908, is of nearly uniform gray coloration with faint indication of dark bands; it is a female and contains two large, thick chitinous egg cases. The third specimen, a female 65 cm. long, taken in the Cebu market on August 16, 1909, is colored like the second example.

## CHILOSCYLLIUM INDICUM (Gmelin).

This species, recorded from Manila by Günther,<sup>1</sup> does not appear to have been noted by more recent writers. The *Albatross* collection contains no specimens from the Philippines, but two specimens 65 and 58 cm. long, obtained in the market of Kowloon (China) on October 5 and October 21, 1908.

CIRRHOSCYLLIUM Smith and Radcliffe; new genus.<sup>2</sup>

Similar to *Parascyllium* Gill. Body slender; anal fin in advance of second dorsal; head much depressed; conical teeth with strong lateral cusps in both jaws; spiracles minute; fourth and fifth gill slits confluent; dermal denticles elongate-ovate, three-keeled; a pair of widely separated skin-covered, thread-like appendages on under side of throat.

*Type of genus.*—*Cirrhoscyllium expolitum* Smith and Radcliffe.

CIRRHOSCYLLIUM EXPOLITUM Smith and Radcliffe, new species.

Plate 45.

Form very elongate; body slightly compressed, abruptly elevated at nape and tapering regularly from nape to tail; head depressed, broad, its length (to posterior gill slit) contained 5.5 times in total length of fish, its width

FIG. 1.—DERMAL DENTICLES FROM SIDE OF CIRRHOSCYLLIUM, ENLARGED.

at first gill slit about 0.5 length, its depth 0.5 width; tail straight, depth of peduncle greater than diameter of eye; eye small, lateral, its diameter equal to last gill slit and contained 2.5 in snout and 7.5 times in head, a well-developed naked fold of skin around eye, this most evident below; interorbital broad, flat, 2.5 times diameter of eye; snout flat, sharp in profile, under surface slightly upturned, tip obtusely rounded; mouth wide, slightly curved, entirely anterior to eye, the angle nearer to eye than to end of snout; a well-developed fold at angle of mouth which extends to symphysis of lower jaw; nasal valves much convoluted; spiracles minute, below and slightly behind posterior angle of eye; four anterior gill slits narrow, the fourth opening on margin of anterior wall of the fifth which is very wide and above pectoral base; teeth in both jaws conical, with well-developed lateral cusps; teeth constricted just below gum, their base expanded and excentric; base of teeth in upper jaw with a deep antero-posterior groove, much shallower and broader in lower jaw; entire surface and

<sup>1</sup> Voyage of *Challenger*, Zoology, vol. 1, pt. 6.

<sup>2</sup> In the study of this shark the writer has been associated with Mr. Lewis Radcliffe, who assumes joint authority for the new genus and species described.

fins closely covered with flat, imbricated denticles, those on upper surface pointed elongate-ovate, with median and lateral keels, those on abdomen and under surface of head smaller, smoother, and less pointed; a long, slender dermal appendage, covered with small denticles, on each side of throat at a point under posterior angle of eye and separated from eye by a space equal to its diameter, the length of the appendages 0.75 diameter of eye, distance of appendages apart more than twice diameter of eye.

Dorsal fins small and of nearly equal size; the anterior midway between tip of snout and end of tail, its origin about midway between origin of ventral and that of anal, its base equal to 0.4 space between the two dorsals; second dorsal beginning over middle of base of anal; caudal fin long, its length greater than head, upper lobe very low and appearing as a mere ridge anteriorly, lower lobe also low, its height less than 0.5 base of first dorsal, a notch near tip; anal fin low, its base equal to distance from fin to lower caudal lobe; ventrals rather broad, the lateral angle rounded, the posterior angle acutely pointed and reaching to a point under origin of first dorsal; pectorals short, broad, the length equal to distance from anterior angle of eye to their base, the angles rounded, distance between two fins at their posterior base equal to distance between spiracle and anterior margin of fin.

Color in life, cinnamon-brown above, with blotches of darker brown on head, body, and tail; whitish below; when dry, the entire surface glistens as though varnished, owing to the peculiar character of the dermal denticles.

*Type*.—Cat. No. 74603, U.S.N.M., a female specimen 33.5 cm. long, taken with a beam trawl on November 4, 1908, at station 5310 (lat.  $21^{\circ} 33' N.$ ; long.  $118^{\circ} 13' E.$ ), in the China Sea between northern Luzon and China, at a depth of 100 fathoms.

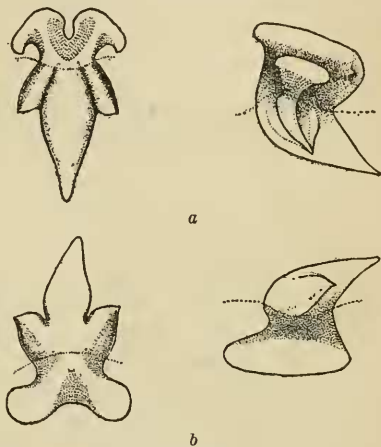


FIG. 2.—FRONT AND SIDE VIEWS OF TEETH OF CIRRHOSCYLLIUM NEAR SYMPHYSIS, GREATLY ENLARGED. THE DOTTED LINES INDICATE THE MARGIN OF THE GUMS. *a*, UPPER JAW; *b*, LOWER JAW.